REMARKS

I. Status of the Claims

Claims 1-3, 5-9, 11-30, and 32-56 were examined. Claims 28 and 29 have been allowed. New claim 57 has been added. Thus, claims 1-3, 5-9, 11-30, and 32-57 are now pending in this application.

Although the Office Action Summary indicates that claim 8 is rejected, claim 8 is not listed in either of the rejections. Nevertheless, Applicants' response to both of the rejections would apply to claim 8 as well.

The Office Action Summary states that this action is final. Applicants, however, note that the Examiner has indicated that the finality has been withdrawn and will treat this office action as a non-final action. *See Office Action* at p. 2.

II. Rejections under 35 U.S.C. § 103

A. Henkel in view of Tsujino

Claims 1-3, 5-7, 9, 30, 32-34, and 37-56 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Henkel (WO 92/13824) in view of Tsujino (U.S. Patent No. 4,961,925). *Office Action* at pp. 2-4. Applicant respectfully traverses this rejection for reasons of record and the following additional reasons.

The Examiner reasserts the position that it would have been obvious "to add a second oxidation base to Henkel's exemplified compositions in the claimed amounts ... and Tsujino teaches that the claimed second oxidation bases are conventional in the hair dyeing art." *Office Action* at p. 4. In response to the Declaration under 37 C.F.R. § 1.132 accompanying our previous Amendment ("Declaration"), the Examiner

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acknowledges that "compositions within the scope of examples 1-3 [of the Declaration] would be allowable." *Office Action* at p. 8. The Examiner, however, believes that the Declaration does not overcome the § 103 rejections because "the scope of the claimed subject matter is much broader than the exemplified subject matter." *Id.* The Examiner further adds that examples 4 and 5, which are not within the scope of the invention, contain p-phenylenediamine and p-aminophenol, respectively, while claims 1 and 19 list several p-phenylenediamines or p-aminophenols. *Id.* The Examiner thus concludes, "one cannot say that all p-phenylenediamines or all p-aminophenols as the second oxidation base will be more resistant to UV light." *Id.*

Applicant respectfully submits that the Declaration shows, (1) that the art does not provide a reasonable expectation of success due to the unpredictability of selecting a second oxidation base, and (2) unexpected results of at least three of the specifically claimed second oxidation bases.

To establish a *prima facie* case of obviousness, the art must provide a reasonable expectation of success. M.P.E.P. § 2143.02. "Applicant may present evidence showing there was no reasonable expectation of success." *Id.* "The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success, viewed in the light of the prior art." *In re Dow Chemical Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988) (added emphasis).

Here, if anything, Applicant agrees with the Examiner's conclusion regarding the likelihood of success, *i.e.*, that "one cannot say that all p-phenylenediamines or all p-aminophenols as the second oxidation base will be more resistant to UV light." This

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conclusion is consistent with the data shown in Table II of the Declaration. *See Declaration* at p. 5. For example, Table II of the Declaration shows that the use of para-phenylenediamine results in a product with good UV resistant properties whereas 1-methoxy-2,5-diaminobenzene does not, the difference in chemical structures being the presence of a single methoxy substituent in the latter oxidation base. In contrast, the references do not lead one of ordinary skill in the art to expect this result. Henkel generally teaches that a second oxidation base can be used in combination with 1,8-bis(2,5-diaminophenoxy)-3,6-dioxaoctane. Tsujino simply mentions that standard oxidation bases are useful for that particular application and lists several conventional bases. Indeed, it is difficult to determine from the general teachings of Henkel or Tsujino that, for example, the presence of a single ortho-methoxy substituent in 1-methoxy-2,5-diaminobenzene, as compared to para-phenylenediamine, would affect the UV resistant properties to the extent shown in Table II of the Declaration. Such data is evidence of the difficulty in correlating chemical structure with UV resistant properties. The data also supports the general proposition that the hair dyeing art is unpredictable.

Accordingly, the references do not provide the reasonable expectation of success required to establish a *prima facie* case of obviousness.

As asserted in the previous Amendment, the Declaration shows unexpectedly good UV resistant properties for a composition comprising any one of at least three of the claimed oxidation bases, namely para-phenylenediamine, N,N-bis(β-hydroxyethyl) para-phenylenediamine monohydrate sulfate, or 2-(β-hydroxyethyl)para-phenylene diamine dichlorohydrate, as a second oxidation base in conjunction with 1,8-bis(2,5-diaminophenoxy)-3,6-dioxaoctane. *See Declaration* at p. 5, Table II. The hair dyed with

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inventive compositions 1-3 shows a much smaller variation in color after the suntest compared to hair dyed with comparative compositions 4-6. Specifically, inventive composition 1 shows 2 to 2.9 times less color fading than any of the non-inventive compositions 4-6, inventive composition 2 reduces color fading by 2.5 to greater than 3.5 times, and inventive composition 3 reduces color fading by 1.5 to 2 times compared to non-inventive compositions 4-6. Thus, the color of hair dyed with compositions according to the invention (1, 2 and 3) is unexpectedly more resistant to prolonged exposure to UV radiation than the color of hair dyed with the non-inventive compositions (4, 5 and 6).

To further support their position of the non-obviousness of the particular components of the presently claimed compositions, Applicant submits a second Declaration ("Second Declaration") under 37 C.F.R. § 1.132, showing unexpected results for a composition comprising the claimed second oxidation base, 4-aminophenol, referred to as "inventive composition 1." The Second Declaration describes comparative testing between inventive composition 1 and "comparative composition 2" containing 2-aminophenol, which is not in accordance with the invention.

In the Second Declaration, Applicant describes a comparison between inventive composition 1 and comparative composition 2, where both compositions are used to dye permed hair. The hair is then subjected to a "suntest," *i.e.*, exposure to a Xenon lamp emitting a UV radiation between 300 and 800 nm. The color of the hair was determined before and after the suntest according to the formula:

$$\Delta E = \sqrt{(L^* - L_o^*)^2 + (a^* - a_o^*)^2 + (b^* - b_o^*)^2}$$

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wherein L* indicates lightness, a* and b* are the chromaticity coordinates of the colored locks after the suntest, L_0* indicates the lightness, and a_0* and b_0* are the chromaticity of the colored locks before the suntest. The lower the value of ΔE, the more resistant is the color of the dyed hair.

As shown in Table II of the Declaration, hair dyed with inventive composition 1 exhibits an much lower value of ΔE compared to hair dyed with comparative composition 2. In other words, hair dyed with inventive composition 1 shows a much smaller variation in color after the suntest compared to hair dyed with comparative composition 2. Thus, the color of hair dyed with compositions according to the invention, *e.g.*, inventive composition 1, is unexpectedly more resistant to prolonged exposure to UV radiation than the color of hair dyed with the non-inventive compositions, *e.g.*, comparative composition 2.

According to the inventor, these significantly superior results were surprising and unexpected. As noted above, one of the basic requirements to establish a *prima facie* case of obviousness is a reasonable expectation of success. M.P.E.P. § 2143.02. Accordingly, "Applicant may present evidence showing there was no reasonable expectation of success." *Id.*

Applicant respectfully submits that such a showing was made here. Based on the comparative tests, where the result depends on the particular combination of components used, *e.g.*, which oxidation base was used as the additional oxidation base, there is no reasonable expectation of success that the selected oxidation bases claimed would produce unexpectedly good results over other oxidation bases. There is simply no basis for a reasonable expectation, based on the teachings of the references,

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of the superior results that occurred for some but not all of the combinations of ingredients based on the variation of the second oxidation base.

Accordingly, no *prima facie* case of obviousness can be made over Henkel in view of Tsujino and Applicant respectfully requests withdrawal of this rejection.

B. Andrillon in view of Henkel

Claims 1-3, 5-7, 9-13, 15-38, 41-53 and 55-56 are rejected under 35 U.S.C. §103 over Andrillon (U.S. Patent No. 4,065,255) in view of Henkel (WO 92/13824). *Office Action* at pp. 4-7. Applicant respectfully traverses this rejection for reasons of record and the following additional reasons.

Andrillon teaches the use of a particular class of couplers in oxidation dye compositions. Andrillon, however, fails to teach compositions comprising 1,8-bis(2,5-diaminophenoxy)-3,6-dioxaoctane. The Examiner cites Henkel to remedy this deficiency. The Examiner apparently believes that the combination is supported by Andrillon's teaching that mixtures of oxidation bases may be used. Office Action at p. 6.

To support a *prima facie* case of obviousness, there must be some motivation or suggestion to combine reference teachings. M.P.E.P. § 2143.01. Moreover, the prior art must suggest the desirability of the claimed invention. *Id.*

Applicant respectfully disagrees that Andrillon or Henkel provide the motivation to combine. Andrillon teaches the advantages of a particular class of couplers. Andrillon, however, does not teach that these couplers will especially benefit a composition comprising 1,8-bis(2,5-diaminophenoxy)-3,6-dioxaoctane, much less any phenoxy oxa-alkane. Andrillon and Henkel fail to suggest the combination of 1,8-bis(2,5-

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diaminophenoxy)-3,6-dioxaoctane with any one of the specifically claimed second oxidation bases. Andrillon and Henkel simply provide the broad teaching that a second oxidation base may be useful.

Moreover, as discussed above, neither Andrillon nor Henkel provide the requisite reasonable expectation of success. There is no indication in the reference that, in combination with 1,8-bis(2,5-diaminophenoxy)-3,6-dioxaoctane, these specific bases will successfully produce a beneficial hair dyeing product in comparison to other structurally related oxidation bases. Further, both the Declarations Under 37 C.F.R. § 1.132 show the unpredictability of the hair dyeing art, as discussed above. In light of the unpredictable results provided in the Declaration, a reasonable expectation of success cannot be inferred from the prior art and thus, a *prima facie* case of obviousness has not been established.

In view of the above, Applicant respectfully requests withdrawal of this rejection.

III. Conclusion

In view of the foregoing, Applicant respectfully requests the reconsideration and reexamination of this application and the timely allowance of the pending claims.

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Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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